

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently Amended) An optoelectronic module, comprising:  
  
a carrier element having electrical connection electrodes and electrical lines;  
  
at least one semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component being applied on the carrier element and being electrically connected to connection electrodes of the carrier element and comprising having a radiation coupling area;  
  
at least one optical device assigned to the semiconductor component; and  
  
a connecting layer made of a radiation-transmissive, deformable material arranged in a gap between the radiation coupling area of the semiconductor component and the optical device,  
  
wherein the optical device and the semiconductor component are fixed relative to one another ~~and in such a way that they are pressed against one another~~ to squeeze ~~and that the connecting layer arranged therebetween, and~~  
  
wherein the connecting layer, when squeezed, is configured to generate an opposing ~~is thereby squeezed in such a way that it generates a force that strives to press the optical device and the radiation coupling area~~ of the semiconductor component apart.
2. (Previously Presented) The optoelectronic module of claim 1, wherein the connecting layer has a thickness of at least 30  $\mu\text{m}$ .

3. (Previously Presented) The optoelectronic module of claim 2, wherein the connecting layer has a thickness of greater than or equal to 150  $\mu\text{m}$  and less than or equal to 350  $\mu\text{m}$ .
4. (Previously Presented) The optoelectronic module of claim 1, wherein the connecting layer has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.
5. (Previously Presented) The optoelectronic module of claim 1 wherein a surface of the carrier element is at least partly coated for protection against external influences with a material that is also contained in the connecting layer.
6. (Previously Presented) The optoelectronic module of claim 1, wherein a refractive index of the connecting layer is adapted to a refractive index of a material of the semiconductor component that adjoins the connecting layer and/or to a refractive index of a material of the optical device that adjoins the connecting layer.
7. (Previously Presented) The optoelectronic module of claim 1, wherein the optical device has refractive and/or reflective elements.
8. (Previously Presented) The optoelectronic module of claim 1, wherein the semiconductor component is a luminescence diode component.

9. (Previously Presented) The optoelectronic module of claim 1, wherein the semiconductor component is a surface-mountable component.

10. (Currently Amended) A method for producing an optoelectronic module comprising the steps of:

providing a carrier element having electrical connection electrodes and electrical lines;

providing a semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component having a radiation coupling area;

providing an optical device;

applying the semiconductor component on the carrier element and electrically connecting the semiconductor component to the connection electrodes;

mounting the optical device above the radiation coupling area of the semiconductor component; and

prior to mounting the optical device, providing a curable and, ~~[[−]]~~ when in a cured state, ~~[[−]]~~ a radiation-transmissive and deformable composition at least over the radiation coupling area of the semiconductor component,

wherein the applied composition is at least partly cured or let to be cured, and

wherein the optical device and the semiconductor component are fixed relative to one another and ~~in such a way that they are~~ pressed against one another to squeeze ~~and thereby that~~ the composition disposed therebetween, and

wherein the composition, when squeezed, generates an opposing connecting layer is ~~squeezed in such a way that it generates a force that the composition~~ strives to press the optical device and the radiation coupling area apart.

11. (Previously Presented) The method of claim 10, wherein the composition is applied in the form of a layer having a thickness of at least 30  $\mu\text{m}$ .

12. (Previously Presented) The method of claim 11, wherein the composition is applied in the form of a layer having a thickness of greater than or equal to 150  $\mu\text{m}$  and less than or equal to 350  $\mu\text{m}$ .

13. (Previously Presented) The method of claim 10, wherein the composition has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.

14. (Previously Presented) The method of claim 10, wherein the composition is applied at least to a part of a surface of the carrier element for protection against external influences.

15. (Previously Presented) The method of claim 14, wherein the composition is applied to the radiation coupling area and to the surface of the carrier element in a single method step.

16. (Previously Presented) The optoelectronic module of claim 2, wherein the connecting layer has a thickness of at least 100  $\mu\text{m}$ .

17. (Previously Presented) The method of claim 11, wherein the composition is applied in the form of a layer having a thickness of at least 100μm.